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TSSG/RED/ATB-114-70

13 May 1970

MEMORANDUM FOR THE RECORD

SUBJECT: Trip [] 30 April and 1 May 1970

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1. [] TSSG/RED/ATB/EL, visited []
as contract monitor of T&M contract [] is
presently evaluating S0 360 color duping material under this contract.

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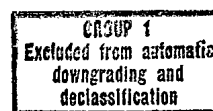
2. The evaluation of S0 360 consists of separating the dye layers so that a series of cyan, magenta and yellow densities are available. These steps of color density can then be measured with a densitometer; from this data, the integral to analytical density relationship can be determined. Knowledge of this relationship allows one to measure density in an individual dye layer (analytical density or E.N.D.) even though the measuring optics and filtration read the total of the densities in all three layers (integral density). In order to use the densitometer as a means of determining film chromaticity coordinates it is necessary that the individual dye layers be quantitatively described. The generation of the single dye layers also allows us to study the affect of different density levels on spectrophotometric dye curve shape. This data can be used in refining the computer generated color gamut.

3. I spoke with [] concerning the need for the color gamut on S0 242 in the proposal for ATB/ITL concerning color image analysis. The color gamut would be used as a technique for going to densitometry data to chromaticity coordinates. The measured value of chromaticity on the film would then be used to calculate dominant wavelength and excitation purity of the image. As a function of these parameters, the correct exposure table would have to be generated; the exposure table would relate image color to the object spectral distribution that produced it.

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4. I also discussed eigen vector analysis with [] As described in a report on the Insite program, the method of characteristic vector analysis is very strong for data reduction of all kinds. The Exploratory Laboratory has a computer program for data reduction via eigen vectors and this is available for use of interested parties.

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5. Informally discussed with [redacted]
[redacted] was the idea of the colorimetric target for evaluating film spectral discrimination ability. This project is being considered for the 1971 Exploratory Laboratory R&D program.

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[redacted]
TSSG/RED/ATB/EL

Distribution:

Orig. - EL/ATB
1 - ATB

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